

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2006/307010

International filing date (day/month/year)
28.03.2006

Priority date (day/month/year)
27.06.2005

International Patent Classification (IPC) or both national classification and IPC
INV. G06F21/00

Applicant
KABUSHIKI KAISHA TOSHIBA

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Date of completion of
this opinion

see form
PCT/ISA/210

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2006/307010

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in electronic form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2006/307010

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has, within the applicable time limit:
- ☒ paid additional fees
 - ☐ paid additional fees under protest and, where applicable, the protest fee
 - ☐ paid additional fees under protest but the applicable protest fee was not paid
 - ☐ not paid additional fees
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☒ all parts.
 - ☐ the parts relating to claims Nos.

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-20
	No: Claims	
Inventive step (IS)	Yes: Claims	5,6,9,14,15,18
	No: Claims	1,2,3,4,7,8,10,11,12,13,16,17,19,20
Industrial applicability (IA)	Yes: Claims	1-20
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item IV.

The separate inventions/groups of inventions are:

1,2,3,4,7,8,10,11,12,13,16,17,19,20

an authentication system where the secret information is input by the user into the input device

5,6,9,14,15,18

an authentication system where the secret information is automatically transferred from the output device to the input device, the user somehow connecting both

They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

The application lacks unity within the meaning of Article 17 (3)(a) PCT for the following reason:

The single concept linking together the claims is a device according to claim 1. A person skilled in the art, implementing a "CAPTCHA" (Completely Automated Public Turing test to tell Computers from Humans Apart, see e.g. D1), which is common general knowledge, would arrive at a device with all features of claim 1:

A server device which outputs a result of computation processing to an output device, comprising:
a communication unit configured to receive a connection request from an input device; (corresponding to a login request from some user at a terminal)
an output device manager configured to store an identifier of the output device; (the server needs an identifier of the output device where to send communication data)
and a connection controller
configured to acquire output capability information of the output device, the output capability information indicating which kind of output the output device can do, configured to acquire input capability information of the input device, the input capability information indicating which kind of input the input device can do, (it is obvious and good programming

practice to first find out which capabilities are available before using them)
configured to generate secret information which can be input to the input device and can be output by the output device, on the basis of the input capability information and the output capability information, configured to transmit the secret information to the output device, (the test graphics or sound is sent to an output device of the terminal, the response is received)

and configured to generate a result of computation processing based on input information received from the input device for transmitting to the output device indicated by the identifier stored in the output device manager in a case of receiving the secret information from the input device. (when the response is the expected response, the input device can be used for inputting data and the output device is used for outputting computed data of the server)

Therefore the single general concept is not inventive, contrary to rule 13.1 PCT

The special technical features of the groups of claims over said prior art are:

- the secret information is input by the user into the input device
- the secret information is automatically transferred from the output device to the input device, the user somehow connecting both

It is clear that there is no technical relationship among these technical features, contrary to rule 13.2 PCT

Re Item V.

- 1 Reference is made to the following documents:
D1 : FRANK SCHWELLINGER: "Humans only" C'T, no. 12/2003, 2 June 2003
(2003-06-02), XP002390619 Heise Verlag
D2: DE 196 20 346 A1 (ROBERT BOSCH GMBH, 70469 STUTTGART, DE) 27
November 1997 (1997-11-27)

2 INDEPENDENT CLAIMS

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

A person skilled in the art, implementing a "CAPTCHA" (Completely Automated Public Turing test to tell Computers from Humans Apart, see e.g. D1), which is common general knowledge, would arrive at a device with all features of claim 1:

A server device which outputs a result of computation processing to an output device, comprising:

a communication unit configured to receive a connection request from an input device; (corresponding to a login request from some user at a terminal)
an output device manager configured to store an identifier of the output device; (the server needs an identifier of the output device where to send communication data)
and a connection controller

configured to acquire output capability information of the output device, the output capability information indicating which kind of output the output device can do,
configured to acquire input capability information of the input device, the input capability information indicating which kind of input the input device can do, (it is obvious and good programming practice to first find out which capabilities are available before using them)

configured to generate secret information which can be input to the input device and can be output by the output device, on the basis of the input capability information and the output capability information, configured to transmit the secret information to the output device, (the test graphics or sound is sent to an output device of the terminal, the response is received)

and configured to generate a result of computation processing based on input information received from the input device for transmitting to the output device indicated by the identifier stored in the output device manager in a case of receiving the secret information from the input device. (when the response is the expected response, the input device can be used for inputting data and the output device is

used for outputting computed data of the server)

- 2.2 The same reasoning applies, *mutatis mutandis*, to the subject-matter of the corresponding independent claims 12 and 20, which therefore are also considered not inventive.

3 DEPENDENT CLAIMS

- 3.1 The dependent claims 2,3,4,7,8,10,11,13,16,17,19 do not contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT with respect to novelty or inventive step, because all additional features are either known from the cited documents or common general knowledge. D1 is considered to be particularly relevant for input via keyboard or microphone, e.g. claims 7 and 8, D2 is considered to be particularly relevant for input via mouse, e.g. claims 2,3,4.
- 3.2 The subject-matter of claims 5,6,9,14,15,18 differs from this known device in that the secret information is automatically transferred from the output device to the input device, the user somehow connecting both.
- 3.3 The subject-matter of those claims is therefore new (Article 33(2) PCT). The problem to be solved by the present invention may be regarded as to ensure that the input device is in proximity of the output device.

The solution to this problem proposed in claims 5,6,9,14,15,18 of the present application is considered as involving an inventive step (Article 33(3) PCT), because the person skilled in the art would find no indication to modify the device of D1 to include the subject-matter of claims 5,6,9,14,15,18.